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## **Paving and Grading**

### **A. General Requirements**

- 1 Grades shall be established by the contractor and the grade stakes shall be set to the desired section by the contractor. In establishing the grades due allowances shall be made for existing improvements, proper drainage, adjoining property rights, and good appearance.
- 2 In designated areas shown on the drawings all debris, vegetation, or other perishable materials shall be removed from the damaged base area. The site to be paved shall be graded to the required section and all excess material removed from the location of the work. Material in soft spots shall be removed to the depth required to provide a firm foundation and shall be replaced with limerock base constructed to the requirements of Section 200 of the FDOT Standard Specifications. The limerock base shall comply with the requirements of base group 6 in accordance with section 285 of the FDOT Standard Specifications. The limerock material shall comply with Section 911 of the FDOT Standard Specifications. The surface of the subgrade after compaction shall be hard, uniform, smooth, and true to grade and cross-section.
- 3 Placing of the plant-mixed asphalt surface course shall follow and be laid in a single course to a compacted thickness of two inches.
- 4 The contractor shall provide the necessary equipment, materials, and labor to complete the job acceptable to the owner.
- 5 If specified by the engineer, the contractor shall furnish for test and analysis representative samples of the materials to be used in the work. Alternatively, if specified by the engineer, the contractor shall provide certification that material furnished is in accordance with the contract. Sampling and testing shall be in accordance with the latest edition of the FDOT Standard Specifications.
- 6 The surface of the completed work, when tested with a 10-foot straightedge, shall not contain irregularities in excess of 1/4 in.
- 7 The Owner may appoint assistants and representatives whose authority is to inspect all work done and all materials furnished. Such inspection may extend to all or any part of the work and to the manufacture, preparation, or fabrication of the materials to be used. Such assistants and representatives are not authorized to revoke, alter, or waive any requirement of the Specifications. Rather, they are authorized to call to the attention of the Contractor any failure of the work or materials to meet the Contract Documents, and have the authority to reject materials or suspend the work until any questions at issue can be referred to and decided by the Owner. The Engineer will immediately submit written notification to the Contractor of any such suspension of the work, stating in detail the reasons for the suspension. The presence of the inspector or other assistant in no way lessens the responsibility of the Contractor

### **B. Materials**

1. The asphalt concrete for the plant mix shall be Superpave asphalt Type SP-12.5 Traffic Level B and as specified by Section 334 of the FDOT Standard Specifications. A certificate of compliance with the FDOT specifications of the asphalt will be acceptable.
2. The mineral aggregate for asphalt plant mix shall consist of coarse aggregate, fine aggregate, and, if needed, mineral filler and shall meet the requirements of Section 334 of the FDOT Standard specifications.
3. The mineral aggregate and asphalt shall be combined in a mixing plant to meet the gradation requirements as specified in the FDOT Standard Specifications Section 334 for asphalt concrete surface, as specified by the engineer prior to the letting of the contract.

### **C. Construction**

1. Mill the existing pavement two inches uniformly.
2. Spreading Surface Courses:

- (a) For all areas of more than approximately 1,000 yd<sup>2</sup> asphalt surface courses shall be spread and struck off with a paver. Any irregularities in the surface of the pavement course shall be corrected directly behind the paver. Excess material forming high spots shall be removed with a shovel or lute. Indented areas shall be filled with hot mix and smoothed with a lute or the edge of a shovel being pulled over the surface. Casting of mix over such areas shall not be permitted.
  - (b) If it is impractical to use a paver or spread box in areas of approximately 1,000 yd<sup>2</sup> or less, asphalt surface courses may be spread and finished by hand. Wood or steel forms, rigidly supported to assure correct grade and cross-section, may be used. Placing by hand shall be performed carefully to avoid segregation of the mix. Broadcasting of the material shall not be permitted. Any lumps that do not break down readily shall be removed.
1. Rolling shall start as soon as the hot mix material can be compacted without displacement. Rolling shall continue until thoroughly compacted and all roller marks have disappeared. In areas too small for the roller a vibrating plate compactor or hand tamper shall be used to achieve thorough compaction.
  2. The quantities to be paid for will be as follows:
    - (a) Preparation of Base – Total number of square yards of base actually prepared for covering with asphalt material.
    - (b) Asphalt Mixture – Total number of tons of asphalt mixture actually incorporated into the work.
  3. The quantities enumerated in the contract documents will be paid for at the contract unit price bid for each item or at a lump sum price bid for the job. Payment will be in full compensation for furnishing, hauling, and placing materials, for rolling, and for all labor and use of equipment, tools, and incidentals necessary to complete the work in accordance with the specifications.
  4. The contractor shall guarantee in writing the satisfactory performance of the completed pavement for a period of 2 years.

#### **D. Testing**

1. Contractor shall be responsible to have an independent licensed geo firm mobilize a drill crew and equipment to perform ten (10) asphalt cores (locations TBD by the CFMO Project Manager) to determine asphalt thickness after milling and resurfacing procedures. Patch boreholes upon completion.
2. Transmit signed report with a summary of the asphalt core thicknesses to CFMO Project Manager and A/E.

### **Pavement Markings**

#### **A. Painted Pavement Markings**

1. Unless otherwise noted all striping shall be four inches wide.
2. Unless otherwise noted, the materials used and the method of application shall be in accordance with FDOT Specification Section 710 Painted Pavement Markings, latest edition.
3. Use durable paint for all stripes as shown on project drawings.

#### **B. Thermoplastic Pavement Markings (ABI #1)**

1. Unless otherwise noted all striping shall be four inches wide.
2. Unless otherwise noted, the materials used and the method of application shall be in accordance with FDOT Specification Section 711 Thermoplastic Pavement Markings, latest edition.
3. Wait at least 14 days after constructing the final asphalt surface course to place thermoplastic pavement markings.
4. Provide standard painted pavement markings during the 14-day waiting period. The cost for painted pavement markings is to be included in the lump sum price for thermoplastic pavement markings.
5. Open paved area to traffic after the application of standard painted pavement markings.

## Grounding Points

### A. Materials

1. Grounding Rods – 3/4” x 10’ Copper clad steel ground rods (Harger #3410 is basis of design).
2. Ground Rod Clamps – 3/4” Superior wide range 2 bolt bronze ground rod clamp (Harger #302U is basis of design).
3. Ground Access Well – 10” x 12” Concrete Roadway Traffic (Heavy Duty) access well with bolt down cast iron lid with “ground” cast into it (KLP, inc. #P6561 is basis of design).
4. Permanent Sealer (Black) - Traffic Grade elastomeric nitrile rubber sealant (Ruscoe Permanent Sealer 974 is basis of design).

### B. Construction

1. Core bore asphalt to proper diameter (allowing space 1/4”- 3/8” maximum for sealant) and depth to install Concrete Access Well flush and tight with surface.
2. Remove core (asphalt, base, and soil) to depth of ground access well. Press ground access well into cored space.
3. Seal interface between concrete access well and asphalt with permanent sealer. Use foam backer rod if necessary to achieve 1/2” depth/thickness of sealant.
4. Drive clean ground rod with slide hammer into undisturbed soil until top of rod is 2” below asphalt surface. DO NOT USE SLEDGEHAMMER.
5. Install ground rod clamp. Install and secure cast iron lid on access well.